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ABSTRACT

This guide provides a review of the relevant literature on desalination within the collections of the Library of Congress. While not intended as a comprehensive bibliography, this guide is designed as a quick and ready reference source for the reader, and includes the following sections: (1) articles that provide introductions to the topic of desalination; (2) subject headings under which books on desalination can be located within the Library of Congress; (3) basic textbooks on desalination; (4) additional titles related to desalination; (5) special reports on desalination; (6) conference proceedings; (7) government publications; (8) bibliographies; (9) dissertations; (10) selected dissertations; (11) abstracting and indexing services that provide listings for relevant journal articles and other literature; (12) representative journal articles; (13) guides where reports and other types of literature are indexed; (14) selected technical reports sold by the National Technical Information Service; (15) selected materials available in the Science Reading Room pamphlet boxes; and (16) additional sources of information. (JJK)

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DESALINATION Compiled by John F. Buydos

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SCOPE: Over the last few decades desalination technologies have been used increasingly throughout the world to produce drinking water from brackish groundwater and seawater, to improve the quality of existing supplies of fresh water for drinking and industrial purposes, and to treat industrial and municipal wastewater prior to discharge or reuse. Desalination technologies include distillation (multiple-effect evaporation, multi-stage flash distillation, vapor compression, and solar distillation), reverse osmosis, electrodialysis, ion exchange, and freeze desalination. selection of the most appropriate desalination technology for a particular use depends on many site-specific factors. Many of these same technologies can also be used to remove contaminants other than salt from water supplies. This guide furnishes a review of relevant literature on desalination in the collections of the Library of Congress. Not intended as a comprehensive bibliography, this guide is designed-as the name of the series implies-to put the reader "on target."

INTRODUCTIONS TO THE TOPIC

Buros, O. K. Desalting practices in the United States. In American Water Works Association. Journal, v. 81, Nov. 1989: 38-42. Pamphlet box* and TD201.A512

Buros, O. K. The desalting ABCs. Topsfield, Mass., International Desalination Pamphlet box* Association, 1990. 22 p.

Using desalination technologies for water treatment: background paper. Washington, Congress of the United States, Office of Technology Assessment, U.S. Govt. Print. Pamphlet box* and TD478.3.U85 1988 Off., 1988. 66 p.

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Bibliography: p. 63-66.

Van der Leeden, Frits, Fred L. Troise, and David Keith Todd. The water encyclopedia. 2nd ed. Chelsea, Mich., Lewis Publishers, c1990. 808 p. TD351.V36 1990 Desk* Includes bibliographical references.

See especially Chapter 8. Water resources management. Section G Desalination, p. 701-706.

*Available in reference collection, Science Reading Room

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SUBJECT HEADINGS used by the Library of Congress, under which books on desalination can be located in most card, book, and online catalogs, include the following:

SALINE WATER CONVERSION (Highly relevant) ADSORPTION, subdivisions under saline water conversion. also PROCESS. PROCESS. **FLASH** DISTILLATION DISTILLATION ELECTRODIALYSIS PROCESS, HYDRATE PROCESS, ION EXCHANGE PROCESS, PIEZODIALYSIS PROCESS, REVERSE OSMOSIS PROCESS SALINE WATER CONVERSION EQUIPMENT INDUSTRY (Highly relevant) SALINE WATER CONVERSION PLANTS (Highly relevant) SOLAR SALINE WATER CONVERSION PLANTS (Relevant) ELECTRODIALYSIS (Related) MEMBRANES (TECHNOLOGY) (Related) REVERSE OSMOSIS (Related) SALINE WATERS (Related) SEA-WATER DISTILLATION OF (Related) WATER-PURIFICATION-ION EXCHANGE PROCESS (Related) WATER-PURIFICATION-REVERSE OSMOSIS PROCESS (Related) DRINKING WATER-PURIFICATION (More general)

BASIC TEXTS

- Awerbuch, Leon. Desalination technology: an overview. In The Politics of scarcity: water in the Middle East. Edited by Joyce R. Starr and Daniel C. Stoll. Boulder, Westview Press, 1988. p. 53-61. Pamphlet box* and HD1698.M53P65 1988
- Eisenberg, Talbert N., and E. Joe Middlebrooks. Reverse osmosis treatment of drinking water. Boston, Butterworths, c1986. 271 p. TD480.4.E38 1986 Sibliography: p. 249-259.
- Reverse osmosis technology: applications for high-purity-water production. Edited by Bipin S. Parekh. New York, M. Dekker, c1988. 516 p. (Chemical industries, v. 35)

 TD480.4.R48 1988
 Includes bibliographies.
- Saline water processing: desalination and treatment of seawater, brackish water, and industrial waste water. Edited by Hans-Günter Heitmann. Weinheim, Federal Republic of Germany; New York, VCH, c1990. 332 p. TD479.S25 1990* Includes bibliographical references.
- Spiegler, K. S., and Alan D. K. Laird, eds. Principles of desalination. 2nd ed. New York, Academic Press, 1980. 2 v. TD479.S6 1980* Includes bibliographies.



ADDITIONAL TITLES

- Desalination technology: developments and practice. Edited by Andrew Porteous. London, New York, Applied Science Publishers; New York, sole distributor in the USA and Canada, Elsevier Science Pub. Co., c1983. 271 p. TD479.D47 1983 Includes bibliographical references.
- Dupont, R. Ryan, Talbert N. Eisenberg, and E. Joe Middlebrooks. Reverse osmosis in the treatment of drinking water. Logan, Utah, Utah Water Research Laboratory, Utah State University, 1982. 103 p. (Water quality series, UWRL/Q-82/05)

 Bibliography: p. 73-82.
- Electrodialysis (ED) & electrodialysis reversal (EDR) technology. Edited by Floyd H. Meller. Watertown, Mass., Ionics, Inc., 1984. 66 p. Pamphlet box*
- Measurements and control in water desalination. Edited by Noam Lior. Amsterdam, New York, Elsevier, 1986. 470 p. (Desalination and water purification, v. 2)
 Published also as a special issue of <u>Desalination</u> (TD478.D4), v. 59.
 Includes bibliographies.
 TD479.2.M43 1986
- Synthetic membrane processes: fundamentals and water applications. Edited by Georges Belfort. Orlando, Fla., Academic Press, 1984. 552 p.
 Includes bibliographies. TD480.4.S94 1984
- Theory and practice of reverse osmosis. Editor, R. Bakish. Englewood, N.J., International Desalination Association, 1985. 359 p. (International Desalination Association. Monograph, no. 1)

 TP156.O7T47 1985
 Include: bibliographies.

SPECIALIZED TITLES

Burns and Roe. Universal design. Washington, U.S. Office of Saline Water; U.S. Govt. Print. Off., 1969. 5 v. TD479.4.B85 Includes bibliographical references.

Contents: v. 1. Report on design of a 2.5 million gallon per day universal desalting plant.--v. 2. User's manual, part I: 2.5-mgd universal desalting plant.--v. 3. User's manual, part II: 2.5-mgd universal desalting plant.--v. 4. Bidding specification, 2.5-mgd universal desalting plant.--v. 5. Technical specification, 2.5-mgd universal desalting plant.

- Desalination and water re-use technologies in Japan, annual report ... Tokyo, Japan, Water Re-Use Promotion Center, 1981- annual. TD429.5.D47 LC holds only 1981.
- Khan, Arshad Hassan. Desalination processes and multistage flash distillation practice. Amsterdam, New York, Elsevier, 1986. 596 p. (Desalination and water purification, 1)

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Desalination and water re-use: proceedings of the twelfth international symposium. Miriam Balaban (editor). Rugby, UK, Institution of Chemical Engineers; New York, Hemisphere Pub. Corp., c1991. 4 v. (Institution of Chemical Engineers, Symposium series, no. 125)

TD478.D44 1991

Proceedings of the Twelfth International Symposium on Desalination and Water Re-Use, held in Malta, April 15-18, 1991, organized by the Institution of Chemical Engineers.

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Includes bibliographical references and indexes.

Desalination in South Florida. Proceedings of a seminar held at MacArthur's Holiday Inn, August 21, 1987, Palm Beach Gardens, Florida. Editor, O. K. Buros. Sponsored by the National Water Supply Improvement Association (NWSIA) and the South Florida Water Management District (SFWMD). [s.l., 1987?] 198 p. [not yet cataloged]

National desalination conferences: proceedings of the fifteenth conference: water desalination and re-use, Ashqelon, Israel, 30th May-1st June, 1983. David Ashboren, editor. Jerusalem, Ministry of Science and Development, National Council for Research and Development, 1983. 355 leaves.

Includes bibliographies. TD478.6.175N368 1983

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GOVERNMENT PUBLICATIONS

- Oak Ridge National Laboratory. Office of Saline Water special report on status of desalting. Prepared for the PSIAC comprehensive framework study by Oak Ridge National Laboratory and Office of Saline Water. Washington, U.S. Dept. of the Interior; U.S. Govt. Print. Off., 1970 [i.e., 1971] 111 p. TD479.U46 Includes bibliographical references.
- United Nations. <u>Dept. of Economic and Social Affairs</u>. First United Nations desalination plant operation survey; a technical and economic analysis of the performance of desalination plants in operation. New York, United Nations, 1969. 122 p. (United Nations. [Document] ST/ECA/112) N&CPR and TD479.U43
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DISSERTATIONS can be located by using the following indexes located in the Library's Main Reading Room:

Comprehensive Dissertation Index 1861/1972- (1973- annual) Z5053.X47 1973

Dissertation Abstracts International (1938- monthly) Z5053.D57

Dissertation Abstracts International (CD-ROM-same coverage as part volumes)

SELECTED DISSERTATIONS (available in Microform Reading Room)

Assouad, Yannick Therese. Combined heat and mass transfer as applied to desalination and liquid desicant cooling systems. 3 microfiche, 4 x 6 in.

Collation of the original: 246 p. UMI Microfiche AAC8517568 MicRR

Bibliography: p. R.1-R.4

Thesis (doctoral)--Illinois Institute of Technology, 1985.

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Applied Science & Technology Index (1913-) Z7913.I7* and CD-ROM

See: Saline Water Conversion

Aquatic Sciences & Fisheries Abstracts (1971-) QH90.A1A68* and CD-ROM

See: Desalination

Desalination Plants

Current Technology Ind x (1962-) Z7913.B7*

See: Sea: Water: Desolination Water, Saline: Desalination

Desalination Abstracts (1966-84) TD478.D43

See: Desalination, general; or name of desired process

Energy Information Abstracts (1976-) TJ163.2.E482*

See: Desalination

Energy Research Abstracts (1976-) Z5853.P83U544b*

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Desalination Plants

Engineering Index (1884-) Z5851.E62* and CD-ROM

See: Desalination

Environment Abstracts (1971-) GF1.E553*

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Environmental Periodicals Bibliography (1972-) Z5863.E57E58*

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General Science Index (1978-) Z7401.G46*

See: Saline Water--Desalting

Magazine Index (1980-) Available in several formats in LC

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Note: Consult reference librarian for location of abstracting and indexing services in the Science Reading Room.



PAIS Bulletin (1915-) Z7163.P9 See: Saline Water--Desalting

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See: Desalination

Desalination Plants

See also key words, e.g. Desalination in NTIS Title Index on Microfiche (1964-)*

Monthly Catalog of United States Government Publications (1895-) Z1233.A18*
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Scientific and Technical Aerospace Reports (1963-) TL500.S35* See: Desalinization



- <u>SELECTED TECHNICAL REPORTS</u>, sold by the National Technical Information Service, Springfield, Virginia 22161, include the following:
 - Conceptual design and cost study for a dual-purpose nuclear-electric reverse osmosis seawater conversion plant. San Francisco, Calif., Bechtel National, Inc., Apr. 1979. 130 p. ORNL/IM-6821**
 - Riley, R. L., and others. Research and development on a spiral-wound membrane system for single-stage seawater desalination. San Diego, Calif., Universal Oil Products Co., Fluid Systems Div., Oct. 1979. 284 p. PB80-114705**
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^{**}Available in microform collection, Science Reading Room



ADDITIONAL SOURCES OF INFORMATION

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